

Claims:

1. A hinge assembly for coupling a spa cover to a spa, said spa cover being movable between a fully closed position and a fully open position, said hinge assembly
5 comprising:
 - a mounting bracket disposed near a top of the spa;
 - a support arm which is pivotably coupled to the mounting bracket about an axis of rotation, and attached on
10 an outside surface of the spa cover at a vertical offset from the axis of rotation when the spa cover is in the fully closed position; and
 - a spring member disposed between the mounting bracket and the support arm, wherein the spring member
15 forms an angle of less than approximately 45 degrees with respect to the top of the spa when the spa cover is in the fully open position.
2. The hinge assembly of claim 1, wherein the spring
20 member forms an angle of between approximately 10 degrees and approximately 20 degrees with respect to the top of the spa when the spa cover is in the fully open position.
3. The hinge assembly of claim 1, wherein the
25 support arm comprises:
 - an elongated member attached along a side of the spa cover;
 - a short member, which is pivotably coupled to the mounting bracket; and
 - 30 a connecting member that forms an angle with respect to both the elongated member and the short member.

4. The hinge assembly of claim 3, wherein the spring member is connected to the short member.

5. The hinge assembly of claim 1, wherein the support arm comprises:

an elongated member attached along a side of the spa cover;

a short member, which is pivotably coupled to the mounting bracket; and

10 a connecting member between the elongated member and the short member, said connecting member having a curvature.

6. The hinge assembly of claim 1, wherein the mounting bracket is mounted on a support bracket, which is attached to a side of the spa.

7. The hinge assembly of claim 1, wherein the mounting bracket is mounted on a deck adjacent to the spa.

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8. The hinge assembly of claim 1, wherein the spring member comprises a gas spring.

9. The hinge assembly of claim 1, wherein an attachment location between the spring member and the support arm can be adjusted.

10. The hinge assembly of claim 1, wherein the support arm is attached to the spa cover via a metal plate disposed on the outside surface of the spa cover.

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11. The hinge assembly of claim 10, wherein the metal plate is affixed to the spa cover via a double sided tape.

12. The hinge assembly of claim 11, wherein the metal
5 plate has a hole formed thereon, wherein a screw is inserted through the hole into the spa cover, and wherein the screw is anchored in the spa cover by rotating the screw.

10 13. The hinge assembly of claim 12, wherein a deformable anchor is engaged with the screw, and wherein the deformable anchor gets deformed and embedded inside the spa cover as the screw is rotated.

15 14. A spa system comprising:

a spa;

a foldable spa cover having at least two sections, said spa cover being movable between a fully closed position and a fully open position;

20 a hinge assembly for coupling the spa cover to the spa, said hinge assembly comprising:

a mounting bracket disposed near a top of the spa;

a support arm which is pivotably coupled to
25 the mounting bracket about an axis of rotation, and attached on an outside surface of the spa cover at a vertical offset from the axis of rotation when the spa cover is in the fully closed position; and

a spring member disposed between the
30 mounting bracket and the support arm, wherein the spring member forms an angle of less than approximately 45 degrees

with respect to the top of the spa when the spa cover is in the fully open position.

15 15. The spa system of claim 14, further comprising a metal plate used to attach the support arm to the spa cover, wherein the spa cover comprises a core and a cover, and wherein the metal plate is mounted on the outside surface of the cover.

10 16. The spa system of claim 14, wherein the spa cover in the fully open position is in an upright position, in which the spa cover has not been moved downward behind the spa.

15 17. The spa system of claim 14, wherein the spa cover in the fully open position is completely behind the spa.

18. A method of mounting a hinge mechanism between a spa and a spa cover having a core and a cover, said method comprising:

20 affixing at least one metal plate on an outside surface of the spa cover using an adhesive, said at least one metal plate having a hole; and

 inserting a screw and an anchor engaging the screw through the hole on said at least one metal plate into the spa cover,

 wherein said adhesive provides sealing to the cover.

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19. The method of claim 18, further comprising:

rotating the screw such that the anchor engaging the screw moves toward a head of the screw, whereby the anchor is deformed as it is being embedded within the core.

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20. The method of claim 18, wherein the cover is fabricated using vinyl and the core is fabricated using foam material.

10 21. The method of claim 18, further comprising attaching a support arm to the spa cover using said at least one metal plate, wherein the support arm is hingedly coupled to a mounting bracket.

15 22. The method of claim 18, further comprising mounting the mounting bracket on or near a peripheral edge at a top of the spa.

20 23. The method of claim 18, wherein the adhesive comprises a double sided tape.